



EQUIPMENT AND PROCESS PRECERTIFICATION PROGRAM

EVALUATION OF THE AIR QUALITY PERFORMANCE CLAIMS FOR THE QUIKWATER® NATURAL GAS-FIRED DIRECT-CONTACT WATER HEATERS

(Models 2500, 3500, and 5000)

NOVEMBER 2001

California Air Resources Board
Precertification Program

Equipment:	QuikWater® Natural Gas-Fired Direct-Contact Water Heaters Models 2500, 3500, and 5000
Applicant:	QuikWater®, a Division of Webco Industries, Inc. 8939 West 21 st Street Sand Springs, OK 74063
Applicant Contact:	Ms. Angie Kuske
Title:	Account Executive
Phone Number:	(918) 241-8880
E-mail:	akuske@quikwater.com
Website:	www.quikwater.com
Application Number:	07209801
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Executive Order Date:	November 28, 2001
Air Resources Board Contact:	Mr. Todd Sterling
Phone Number:	(916) 4445-1034
E-mail:	tsterlin@arb.ca.gov
ARB's Precertification Website:	www.arb.ca.gov/eqpr/eqpr.htm

ABSTRACT

The purpose of this report is to document the California Air Resources Board's (ARB's) evaluation and verification of the air quality-related claims made by QuikWater[®], a Division of Webco Industries, Inc. (QuikWater) for its natural gas-fired direct-contact water heaters (model 2500 rated at 2.8 million British thermal units per hour (MMBtu/hr), model 3500 rated at 3.8 MMBtu/hr, and model 5000 rated at 5.0 MMBtu/hr).

In an effort to make progress towards attaining healthy air quality in California, regulations are being implemented to restrict emissions of oxides of nitrogen (NO_x) and carbon monoxide (CO) from a broad spectrum of activities. NO_x and CO emissions are emitted directly from combustion-related sources such as industrial, commercial and institutional boilers, and process heaters. The reduction of these pollutants is part of California's clean air strategy to achieve and maintain healthy air quality in California.

As part of its Equipment and Process Precertification (Equipment Precertification) Program application package, QuikWater requested that the ARB evaluate its proposed performance claims. When these water heaters are operated at specific loads according to manufacturer's instructions, all three models demonstrated values that are no greater than 8.5 parts per million volume (ppmv) NO_x and 6.8 ppmv CO for model 2500, 7.7 ppmv NO_x and 10.2 ppmv CO for model 3500, and 7.1 ppmv NO_x and 12.1 ppmv CO for model 5000. Both NO_x and CO emissions are measured on a dry basis, and corrected to 3 percent oxygen for each model.

Upon successful completion of the requirements associated with the ARB's Equipment Precertification Program, a report is issued with two companion documents—an Executive Order issued by the ARB and a certificate issued by the California Environmental Protection Agency. These documents serve as official records that the ARB has independently verified the applicant's performance claims. Executive Orders issued under the ARB's Equipment Precertification Program are valid for three years from the date of issuance, provided that the holder complies with: 1) the terms and conditions identified in this report; and 2) the general requirements discussed in the Equipment Precertification Program Guidelines and Criteria.

After review of the documents discussed throughout this report, the ARB staff recommends that an Executive Order and a Precertification certificate be issued to the QuikWater natural gas-fired direct-contact water heater models 2500, 3500, and 5000.

**CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
AIR RESOURCES BOARD**

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